

AN ARRANGEMENT OF THE AMERICAN CYCLOSTOMATIDÆ,
WITH A REVISION OF THE NOMENCLATURE.

By Prof. WILLIAM H. DALL, D.Sc.

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THE following arrangement shows in outline the results of a somewhat extended investigation into the nomenclatorial history and diagnostic characters of the American members of this family.

Genus ANNULARIA, Schumacher, 1817.

Rhachidian tooth of the radula, narrow, unicuspidate.

Type: *Turbo lincina*, Linn.

This is *Annularia*, Schumacher, after the deduction of *Cyclophorus*, which dates from 1810.

Subgenus ANNULARIA, s.s.

Operculum horny, multispiral, circular, with a depressed central nucleus, and an elevated, calcareous, continuous, spirally gyrate lamina externally, which is obliquely striate, with the coils separated by a narrow channel at the suture, and with the opercular periphery sulcate.

Section *Jamaicia*, C. B. Adams, 1850.

Type: *J. anomala*, Adams. Jamaica.

Operculum externally very convex, internally concave; few-whorled, with subcentral nucleus, and gyrate calcareous lamina.

Section *Diplopoma*, Pfeiffer, 1859.

Type: *D. architectonicum* (Gundlach). Cuba.

Operculum paucispiral, with a lamina as in *Annularia*, s.s., but with the peripheral sulcus exceptionally deep.

Section *Adamsiella*, Pfeiffer, 1851.

Type: *A. mirabilis* (Wood). Jamaica.

Operculum circular, thin, paucispiral, with a central nucleus, and very delicate, gyrate, calcareous lamina, of which the coils are separated by deep channels; the shell pupiform, small.

Genus RHYTIDOPOMA, Sykes, 1901.

Type: *Ctenopoma rugulosum*, Pfeiffer.

Operculum flat, circular, with subcentral nucleus, and rather rapidly enlarging whorls; calcareous layer rising in low, regularly spaced lamellæ, in harmony with the incremental lines; calcareous

layer with the coils separated from the suture by a channel showing the horny basis of the operculum; a peripheral sulcus present. The radula as in *Annularia*.

This is *Ctenopoma* (Shuttlew.), Pfr., 1856, not of Peters, 1844.

Genus COLOBOSTYLUS, Crosse & Fischer, 1888.

Type: *Cyclostoma Jayanum*, C. B. Ad. Jamaica.

Radula as in *Annularia*. Habit of the shell resembling that of *Cyclostoma*, auct. (= *Ericia*). Operculum flat, double-edged, circular or subcircular, few-whorled, slightly concave externally, nucleus subcentral, depressed; calcareous layer smooth or incrementally striate, with no channel at the suture or elevated lamella.

Genus CHONDROPOMA, Pfeiffer, 1847.

Radula with the rhachidian tooth tricuspid.

Subgenus CHONDROPOMA, s.s.

Type: *Cyclostoma semilabris*, Lamarck. Haiti.

Operculum thin, flat, smooth, with no peripheral sulcus, paucispiral, with very excentric nucleus, and whorls rapidly enlarging; the calcareous layer reduced to a very thin layer of minute superficial granules, or absent entirely. *C. pictum*, Pfr., is similar.

Subgenus TUDORA, Gray, 1850.

Type: *T. megacheila* (Pot. & Mich.). Curaçao.

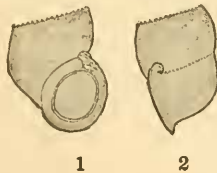
Operculum few-whorled, with an excentric nucleus and duplex periphery, the calcareous layer flat, with incremental striæ, not channelled at the suture.

Subgenus nov. PARACHONDRIA, Dall.

Type: *Turbo fascia*, Wood. Jamaica.

Operculum flat, thin, with no peripheral sulcus, with a subcentral nucleus, and few, rapidly enlarging whorls; calcareous layer appressed, thin, obliquely striate, with a narrow smooth channel at the suture.

This is *Cistula* (Humphrey, MS.), Sowerby, 1847, not of Say, 1825.



Genus nov. OPISTHOSIPHON, Dall.

Type: *Chondropoma Bahamense*, Sh. (Figs. 1, 2.) Bahamas.

Shell with the habit of *Chondropoma dentatum*, Say, but in the adult with a tubular projection behind and distinct from the outer lip and the posterior angle of the aperture, but communicating with the lumen of the whorl. Operculum as in *Rhytidopoma*, but thinner.

Chondropoma Bahamense, Shuttleworth, and *C. Rawsoni*, Pfeiffer, of the Bahamas, *Tudora Moreletiana*, Petit, Isle of Pines, and *T. excurrens*, Gundlach, Cuba, belong to this group. The tube communicates with the whorl, so that air is admitted when the aperture is hermetically sealed by the operculum. In senile specimens it is sometimes closed by shelly matter deposited within the whorl. The end of the short, bulb-shaped tube has the aperture turned toward and very close to the surface of the preceding whorl, which is probably the reason why the arrangement has not attracted more attention. The tube is complete before the outer lip or its expanded portion is begun, and thus differs from the sulcus or channel at the posterior angle of the aperture and indenting the lip itself, which occurs in some American members of this family.

It is hardly necessary to add that in the above diagnoses account has been taken only of the distinctive and diagnostic characters. I have depended on the identifications of species made by Bland and Gundlach of specimens in the National Museum.
